UNITED STATES DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE March, 2005

CSP Minimum Water Quality Eligibility Checklist and Certification Form

(Water Quality Concerns include Fecal Coliform, Turbidity, Nutrients and Pesticides in Surface Waters and Fecal Coliform, Nitrogen and Pesticides in Groundwater)

Complete this form for all fields that you wish enrolled in CSP. This form applies to Tier I status only. Higher management levels will be required to qualify for Tier III status and select enhancements. Place an "X" in the appropriate box next to each question. An X indicates "Yes" unless otherwise stated.

☒ **1**. Are all sites protected from erosion caused by concentrated water (No noticeable channels greater than 6 inches in depth)?

☒ **2.** Have you documented field specific nutrient and pest management activities for the **past 2 years** on all fields you wish to enroll? This documentation includes:

- crops and yields, planting and harvest dates
- identified pest problem, control applied, date applied and results of control
- pesticide brand name, EPA registration number, active ingredient and rates applied if pesticides were used
- commercial fertilizer and manure applications
  - including rates, timing, nutrient content, and method of application and incorporation
- quantity of manure and other organic products produced annually
- quantity of manure transported off-site to land not owned or controlled and name and address of commercial hauler or applicator receiving this manure

☒ **3**. **Are realistic yield goals** for fields you wish to enroll within the range indicated below?

☒ **Further evaluation needed *if realistic yield goals are higher than ranges indicated.*** **Indicate fields: Jones Farm Fields 3,4 and 5**

In this watershed, typical realistic yield goals should be no more than

- 150-174 bushels per acre for corn
- 19-21 tons for corn silage
- 50-59 bushels per acre for soybeans
- 6 tons per acre for alfalfa

Realistic yield goals for unlisted crops should be within 120% of published yield goals found in the NRCS Electronic Field Office Technical Guide (E-FOTG), Section II; County Soils Information; http://www.nrcs.usda.gov/technical/efotg/

Or within 110% of the county average yield as found in Minnesota Agricultural Statistics (average the most current 2 years and multiply by 1.1).

http://www.nass.usda.gov/mn/ctycrop.htm

☒ **4**. Do you have current **soil test results** that meet the following criteria**?**

- Tests are no older than 4 years for most rotations including rotations containing three or more years of row crops followed by hay/grass. See exceptions below.
  - Tests for rotations containing primarily hay and pasture should be no older than the rotation length but no more than 8 years old (e.g. Corn/Oats/Alfalfa/Alfalfa/Alfalfa/Grass/Grass/Grass).
- Analyzed for pH, organic matter (O.M.), phosphorus (P), and potassium (K)
- Analyses must be from a Minnesota Department of Agriculture (MDA) certified soil-testing lab (**See attached list).** **If not, submit new soil test results from a certified lab prior to December 1 or prior to fall fertilizer applications.**

☐ **5**. Do you have current **manure test results** meeting the following criteria from every manure source of 75 or more animal units? *This requirement only applies to fields that have received manure applications within the last 2 years. Indicate fields that have received applications within the last 2 years on a map or photo.*

- Analyses are no older than 4 years for operations that have historical annual records demonstrating no change in analyses across years. Otherwise analyses are no older than 2 years.
- Analyses are from a Minnesota Department of Agriculture (MDA) certified manure-testing lab **(see attached list)**

☒ **6.** Do your fertilizer and manure application rates meet the criteria listed below?

- Application rates are based on results of soil tests
- Nitrogen application rates are within 20 lbs. per acre of Univ. of Minn. Fertilizer Recommendations
  - The total amount of N applied accounts for nutrients provided by previous legume crops, past manure applications as well as all commercial fertilizer and manure applied in the crop year
- Phosphorus application rates are within 20 lbs. per acre of Univ. of Minn. Recommendations
  - Manure application rates based on nitrogen result in phosphate (**P_2O_5**) application rates that exceed Univ. of Minn. **P_2O_5** recommendations. This will normally be acceptable. But commercial fertilizer phosphorus additions to these manured fields are limited to **15 pounds per acre**.
  - In order to comply with state law, manure applications are based on phosphorus removal on some fields with high soil test P levels (See #7 below).

Basic Univ. of Minn. Nitrogen recommendations

Soil Organic Matter Levels Less than 3.0 %

Allowable total pounds of nitrogen per acre for corn				
Yield Goal	Continuous Corn	Corn following Soybeans	Corn – 1st year following Alfalfa	Corn – 2nd year following Alfalfa
150-174 bu./acre	190	150	90	140
175-199 bu./acre	210	170	110	160

Soil Organic Matter Levels 3.0 and Greater or Southeastern Minnesota Well-Drained Soils with Silt Loam Surface Textures

Allowable total pounds of nitrogen per acre for corn				
Yield Goal	Continuous Corn	Corn following Soybeans	Corn – 1st year following Alfalfa	Corn – 2nd year following Alfalfa
150-174 bu./acre	160	120	60	110
175-199 bu./acre	180	140	80	130

Univ. of Minn. Phosphate recommendations

		Soil Test **Phosphorus** Level					
		Bray P1	0-5 ppm	6-10 ppm	11-15 ppm	16-20 ppm	21+ ppm
		Olsen	0-3 ppm	4-7 ppm	8-11 ppm	12-15 ppm	16+ ppm
		Pounds of **Phosphate** fertilizer per Acre					
Crop	Realistic Yield Goal (bu/acre)		Broadcast (Row)	Broadcast (Row)	Broadcast (Row)	Broadcast (Row)	Broadcast (Row)
Corn	150-174		100 (50)	70 (35)	40 (30)	15 (10-15)	0 (10-15)
	175-199		110 (55)	75 (40)	45 (30)	15 (10-15)	0 (10-15)
Soybeans	50 - 59		80	60	0	0	0
Alfalfa	6 tons		95	65	40	15	0

If you grow crops or have rotations not shown above you will have to consult the following sources to answer question #6.

- University of Minnesota Fertilizer Recommendations for field crops and vegetable crops at:
  - http://www.mn.nrcs.usda.gov/technical/ecs/nutrient/plant%20nutrient/plantnutrient.htm
  - http://www.extension.umn.edu/distribution/cropsystems/DC5886.html
- An on-line calculator to determine Univ. of Minnesota recommendations can be found at:
  - http://www.agry.purdue.edu/mmp/webcalc/fertRec.asp

- Manure nutrient availabilities can be found at the following link:
    - http://www.mn.nrcs.usda.gov/technical/ecs/nutrient/manure/manure.htm

☒ **7**. If you **apply manure, do you meet the following criteria** on all fields you are enrolling?

- **Manure applications are based on crop phosphorus removal** on fields without field edge filter strips if those fields have soil test phosphorus values greater than 21 ppm Bray 1 (16 ppm Olsen) and are within 300 feet of lakes and streams.
- **No manure is applied:**
    - in road ditches
    - within 25 feet of lakes, perennial and intermittent streams and public water wetlands
    - within 50 feet of water supply wells, mines, quarries, sinkholes receiving surface runoff, or other direct conduits to groundwater
    - No traveling gun or center pivot manure applications within 300 feet of lakes, perennial and intermittent streams and public water wetlands
- **No wintertime manure applications** (ground is frozen, snow-covered, or actively thawing):
    - within 300 feet of lakes, perennial and intermittent streams and public water wetlands.
    - on any field with sheet and rill soil losses greater than 4 tons/acre/year (solid manure) or greater than 2 tons/acre/year, (liquid manure). *Soil loss estimates will be needed to answer this question.*
- **Manure is injected (or incorporated within 24 hours)** within 300 feet of:
    - surface tile intakes, water supply wells, mines, quarries, sinkholes receiving surface runoff, or other direct conduits to groundwater
    - lakes, perennial and intermittent streams and public water wetlands on fields that do not have a field edge filter strip
- **No manure is applied during usual peak flood periods on "frequently" flooded soils***
    - floods 50-100 times in 100 years
- **Fall manure applications on coarse textured soils* are delayed until soil temperature is below 50° F at a 6" depth (Approximately Nov. 1 dependent on area of the state).**
- **On fields over shallow fractured bedrock* or with high water tables***, a **15 inch or greater separation is maintained** between applied manure and fractured bedrock or high water table.
- A **cover crop is established** when manure is applied in June, July or August to fields that have been harvested or would otherwise not have active growing crops for the remainder of the growing season.

☒ **8**. If you **fall apply commercial nitrogen fertilizer,** applications:

- Are made after the **soil temperature** is **below 50° F** at a 6" depth (Approx. Nov. 1)
- Do not contain **nitrates**
- Are not made to soils in the textural classes of **loamy sand** and **sand.** Sidedress or split-applications are used
- Are not made to soils with less than 36 inches of soil above fractured bedrock
- Are not made to soils in the textural classes of silt, silt loam or loam in southeastern Minnesota

The attached field maps identify areas having coarse-textured soil profiles down to 3 feet; flooding potential; wet soil moisture status; and depth to bedrock. These maps will help you answer some of the above questions.

☒ **9.** Do you store, handle, transport, mix, and dispose of all pesticides, pesticide containers, unused pesticides and rinsate in accordance with **state law** and **safe handling procedures**? This includes setbacks from sensitive areas when mixing or loading pesticides or cleaning application equipment. Setbacks vary dependent on state law but are often 150 feet.

☒ **10**. Do you implement the concepts and principles of **Integrated Pest Management (IPM)** into your pest management plan? **Check the IPM practice(s) used**.

These include:

☐ Using disease and weed free seed to prevent introduction of pests into fields

☐Selecting plant varieties that are resistant to pests and adapted to growing seasons and hardiness in respective areas of the state

☒Regularly scouting fields to properly identify pest conditions, need for control and timing of control (frequency dependent on pest)

☐Using multiple pest control methods including effective biological, mechanical, cultural and chemical pest controls

☒Following all label requirements when using chemical control treatments

☒Calibrating application equipment before mixing and loading pesticides at the beginning of each season and any time nozzle type is changed.

☒ **11.** Have you implemented mitigation practices to minimize the potential environmental impacts of products containing the following chemicals*:

- **Herbicides**
  - Acetochlor, Alachlor, Atrazine, Isoxaflutole, Metolachlor, Metribuzin and Pronamide
- **Insecticides**
  - Bifenthrin, Carbofuran, Chloropyrifos, Cyfluthrin, Cyhalothrin, Esfenvalerate, Fipronil, Permethrin, Phorate, Tefluthrin, Terbufos and Zeta-cypermethrin

Attached is a list of products that contain the above listed chemicals.

***Mitigation practices include one or more of the following:** *Check the mitigating practice(s) used.*

☒using low end of label rate ranges

☐timing of applications to reduce potential for movement in runoff or leaching

☒band applying, spot treating or variable rate applying where appropriate

☐using companion crops, cover crops and crops residues, when appropriate, to suppress weed growth

☐using crop cultivation and shallow tillage operations to control annual and biennial weed seedlings

☐installing additional erosion and runoff control measures to minimize off-site movement of applied pesticides

☐establishing vegetated buffer areas which separate normal crop production practices from sensitive features such as sinkholes, wells, streams, lakes, waterways and tile inlets

☐Additional practices listed by MDA as Best Management Practices (BMPs) for all agricultural herbicides and as BMPs specific to "common detection" pesticides

*** If you are not using one of these mitigation practices NRCS will evaluate your fields to determine if mitigation is unnecessary. You will meet the eligibility criteria if the results of our evaluation show low probability of impacting human health (A WIN-PST rating of L or VL for Human Toxicity). Indicate the chemical and the field it was used on.*

Submit the following:

- Proof (e.g. At least 3 years of crop insurance reports, elevator receipts, etc) for each crop with higher yield goals than shown in question 4.

Complete and submit the attached Water Quality Benchmark Worksheets to help NRCS evaluate if you qualify for Tier II status and certain nutrient management enhancements.

Retain the following. This information will be requested from you in the future if you are spot-checked.

- All records of nutrient and pesticide application for the past 2 years
- Most recent soil and manure test results from a Minn. Dept. of Agriculture certified lab.
- Other information that verifies your eligibility including information listed in Question 2 above.

I have reviewed and understand the CSP minimum water quality eligibility requirements and certify that I meet all requirements on the following fields. Jones Farm, Tract 1111, All fields but field #6 (back 20)

_____ _____

CSP Applicant's Name Date